



Technical Data Sheet

PolyMax™ PETG-ESD

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V5.4



PolyMax™ PETG-ESD

PolyMax™ PETG-ESD offers electrostatic discharge (ESD) safety with improved toughness making it a good candidate for applications in electronics industry.

PHYSICAL PROPERTIES

Property	Testing Method	Typical Value
Density	ISO1183, GB/T1033	1.24 g/cm ³ at 23°C
Melt index	280°C, 5kg	14 g/10min
Light transmission	N/A	N/A
Flame retardancy	N/A	N/A

CHEMICAL RESISTANCE DATA

Property	Resistance
Effect of weak acids	Good
Effect of strong acids	Poor
Effect of weak alkalis	Fair
Effect of strong alkalis	Poor
Effect of oils and grease	Good

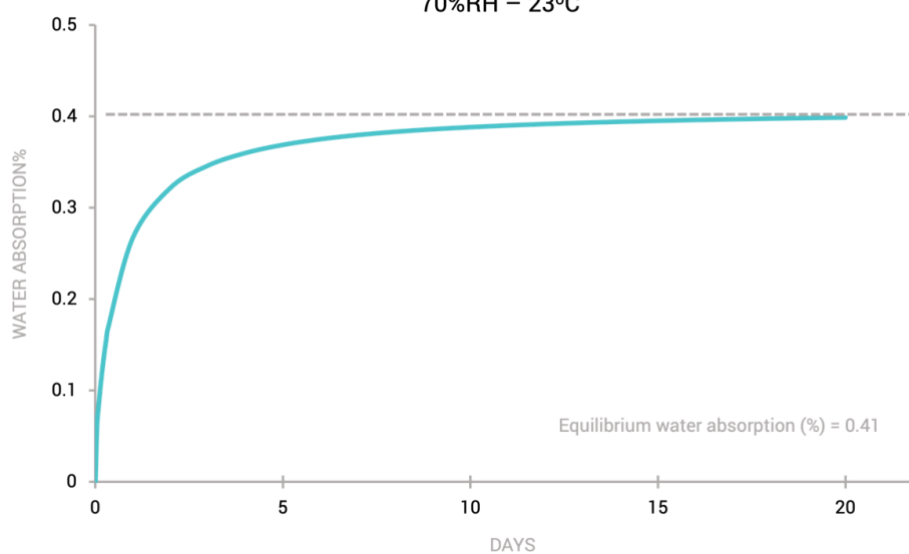
Note:

- Good: Material may get minor attack after long periods of storage with chemical at ambient temperature
- Fair: Material can be used for short time contact with chemical at ambient temperature
- Poor: Material becomes unstable on contact with chemical at ambient temperature

MOISTURE ABSORPTION CURVE

PolyMax™ PETG-ESD

70%RH – 23°C



THERMAL PROPERTIES

Property	Testing Method	Typical Value
Glass transition temperature	DSC, 10°C/min	77 °C
Melting temperature	DSC, 10°C/min	N/A
Crystallization temperature	DSC, 10°C/min	N/A
Decomposition temperature	TGA, 20°C/min	373 °C
Vicat softening temperature	ISO 306, GB/T 1633	86 °C
Heat deflection temperature	ISO 75 1.8MPa	72 °C
Heat deflection temperature	ISO 75 0.45MPa	76 °C

MECHANICAL PROPERTIES

Property	Testing Method	Typical Value
Young's modulus (X-Y)	ISO 527, GB/T 1040	1983 ± 66 MPa
Young's modulus (Z)		1626 ± 34 MPa
Tensile strength (X-Y)	ISO 527, GB/T 1040	36.1 ± 0.7 MPa
Tensile strength (Z)		20.7 ± 0.6 MPa
Elongation at break (X-Y)	ISO 527, GB/T 1040	7.3 ± 0.5 %
Elongation at break (Z)		1.8 ± 0.1 %
Bending modulus (X-Y)	ISO 178, GB/T 9341	1658 ± 164 MPa
Bending strength (X-Y)	ISO 178, GB/T 9341	54.0 ± 3.0 MPa
Notched Charpy impact strength (X-Y)	ISO 179, GB/T 1043	5.7 ± 0.6 kJ/m ²

ELECTRICAL PROPERTIES

Surface Resistivity (Ω)		Nozzle Temperature		
		250°C	270°C	290°C
Specimen Type	0°	(1.6 ± 0.3)E+7	(4.7 ± 0.8)E+5	< 1E+4
	45°	(7.0 ± 0.9)E+6	(3.4 ± 1.2)E+5	< 1E+4
	90°	(8.8 ± 0.8)E+6	(3.2 ± 1.0)E+5	< 1E+4

* The test method is ANSI ESD S11.11

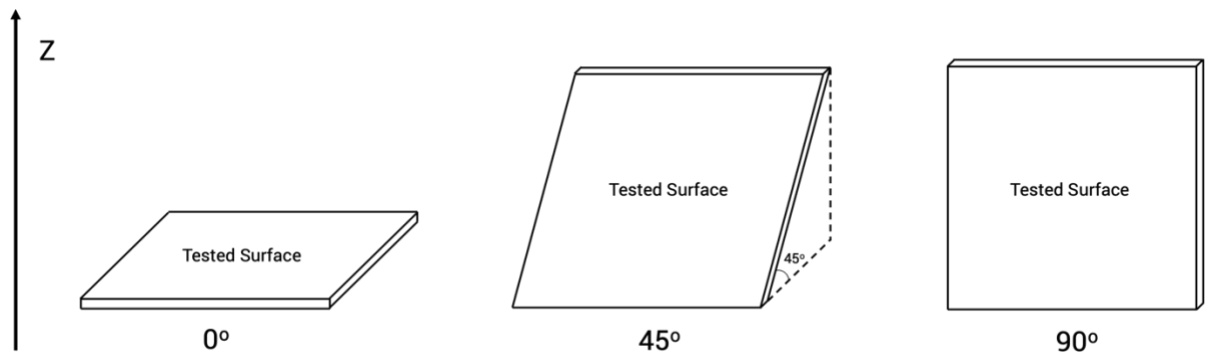


Diagram of test specimen

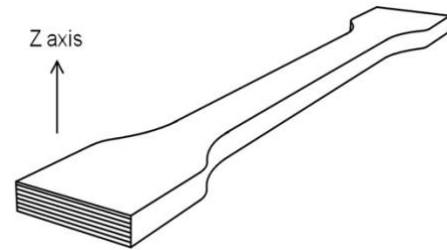
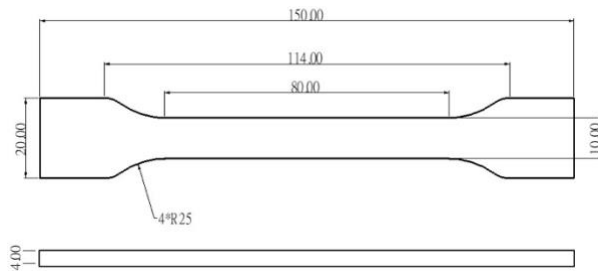
RECOMMENDED PRINTING CONDITIONS

Parameter	
Nozzle temperature	250 – 290 (°C)
Build surface treatment	PC and Texture PEI (Glue when needed)
Build plate temperature	70 – 80 (°C)
Cooling fan	OFF
Printing speed	50 - 100 (mm/s)
Retraction distance	1 - 3 (mm)
Retraction speed	20 - 40 (mm/s)
Closure Chamber	No Needed
Recommended support material	PolyDissolve™ S1
Drying setting	65°C for 6h
Annealing setting	-

* Based on 0.4 mm nozzle. Printing conditions may vary with different nozzle diameters

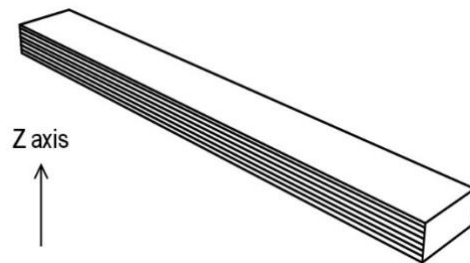
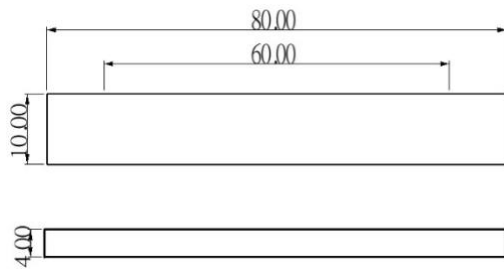
TENSILE TESTING SPECIMEN

ISO 527, GB/T 1040



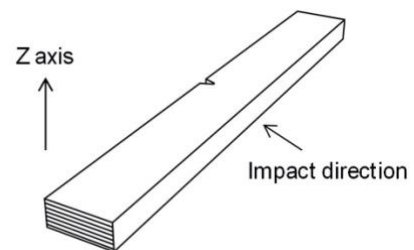
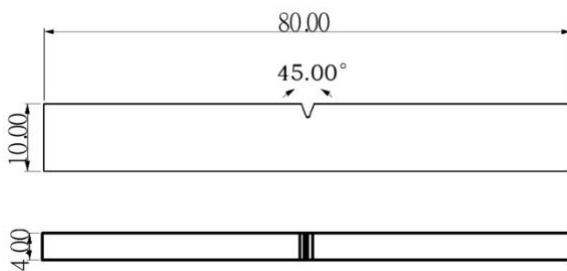
FLEXURAL TESTING SPECIMEN

ISO 178, GB/T 9341



IMPACT TESTING SPECIMEN

ISO 179, GB/T 1043



HOW TO MAKE SPECIMENS

Printing temperature	290 °C
Bed temperature	80 °C
Shell	2
Top & bottom layer	3
Infill	100 %
Environmental temperature	Ambient temperature
Cooling fan	OFF

DISCLAIMER:

The typical values presented in this data sheet are intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. Actual values may vary significantly with printing conditions. End- use performance of printed parts depends not only on materials, but also on part design, environmental conditions, printing conditions, etc. Product specifications are subject to change without notice.

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